

What is claimed is:

1. A lithium cell comprising a positive electrode, a negative electrode having lithium, a separator interposed between the positive electrode and the negative electrode, and a non-aqueous electrolytic solution containing a solute and a non-aqueous solvent, wherein:

the non-aqueous solvent has one or more than one compound represented by the following general formula (1), the one or more than one compound being a main component of the non-aqueous solvent, and the main component being 90% to 100% in volume of the non-aqueous solvent,



(where X and Y are independently a methyl group or an ethyl group, and n is 2 or 3); and

15 the separator has a melting point of higher than 150°C.

2. The lithium cell according to claim 1, wherein the non-aqueous solvent includes cyclic ester carbonate or cyclic lactone, the cyclic ester carbonate or the cyclic lactone being a subsidiary component.

3. The lithium cell according to claim 1, wherein the solute is lithium bis (trifluoromethanesulfonyl) imide or lithium bis (pentafluoroethanesulfonyl) imide.

4. The lithium cell according to claim 1, wherein the positive electrode includes a manganese oxide.

5. The lithium cell according to claim 4, wherein the manganese oxide is a spinel type lithium manganese oxide.